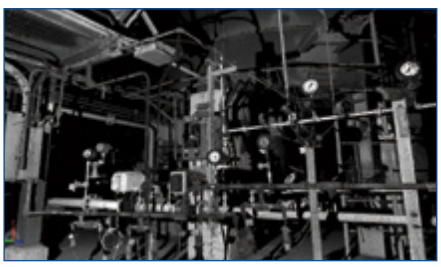
DATASHEET

TRIMBLE FX SCANNER

KEY FEATURES

- Designed for performance in industrial environments
- 360° x 270° field of view
- Data capture rate >190,000 points per second
- Clean low-noise data
- Compact, lightweight design
- Data integrates with other Trimble survey instruments



3D data inside Trimble's LASERGen 3D environment

The Trimble® FX scanner is an advanced 3D laser measurement instrument designed for use in industrial, shipbuilding and offshore platform environments where fast acquisition of clean, accurate data is paramount. With a 360° x 270° field of view and average data capture rates of 190,000 points per second, the Trimble FX system provides real advantages for your project management.

The Trimble FX scanner is a highly mobile instrument that weighs just 11 kg, allowing for easy movement on a project. The included carry on case conforms to the requirements of most airlines to be placed in an overhead luggage bin, allowing you to carry the instrument with you, reducing the risk of damage or misplacement. The Trimble FX scanner also meets the carry on requirements for working in the offshore industry, where the shipment of equipment is restricted.

IT'S ALL IN THE DATA

The Trimble FX scanner allows users to measure existing conditions quickly and accurately, creating a high-resolution image. Each pixel in the image represents a 3D point in space that can be used for virtual surveying, locating interferences and connection points, or to create 2D and 3D CAD shapes for use with AVEVA, Intergraph, Autodesk, Bentley and other design software systems.

The Trimble FX scanner creates clean low-noise data, reducing the number of hours needed in the office to process the data. Data can either be used in its raw format directly using the Trimble LASERGen™ suite of software applications or imported into Trimble RealWorks® Survey software or Trimble 3Dipsos modeling software.

FLEXIBILITY

The Trimble FX scanner in conjunction with the Trimble FX controller software offers users a flexible 3D imaging solution by providing the ability to change the size of the image grid. This creates a low or high resolution dataset. Flexibility like this is necessary to adapt to a variety of projects such as a congested industrial environment, a reverse engineering project, verifying dimensional control or to control construction accuracy.

STATIONING AND SETUP

The Trimble FX scanner can be mounted on a tripod using a 5/8" threaded connection. It can also be directly mounted as needed to other brackets, columns, decking or ceiling joists. This allows users to position the instrument in any environment to capture the required data. There is no need to level the instrument when positioning. The Trimble RealWorks Survey Registration software allows the user to quickly transform the data in the office to the correct location, reducing the time required in the field between station setups.

CONTROL AND TARGETING

Using The Trimble RealWorks Survey Registration software users are able to quickly locate targets with the captured 3D scene and transform the locations to known positions. The Trimble FX scanner supports both flat targets and spheres, depending on the needs of the project. Users are able to create registration reports, showing the amount of error between stations and control, providing a full solution for the project.

TOTAL SOLUTION

Data from the Trimble FX scanner can be used alone or it can be combined with data from other Trimble surveying instruments such as the Trimble GX™ 3D Scanner and the Trimble VX™ Spatial Station.

Trimble®

TRIMBLE FX SCANNER

PERFORMANCE

Range[1,2]	up to 46 m (50% reflectivity); 35m (30% reflectivity)
Scanning speed	190,000 points per second (average)
Typical scan time	.5 minutes (single pass)
Range uncertainty	1 mm @ 15 m single pass (on 90% reflectivity)
Target acquisition	std dev. <1 mm @ 15 m
Distance accuracy (std dev.) (on 90% reflectivity)	1-pass HQ: 0.6 mm @11 m; 0.8 mm @ 21 m 2-pass: 0.45 mm @ 11 m; 0.5 mm @ 21 m
Position accuracy	.0.4 mm @ 11 m; 0.8 mm @ 21 m
Angle uncertainty	<30 arc second (1.6 mm @ 11 m; 3 mm @21 m)
Angular resolution	8 sec
Scan grid (V)	configurable
Min. scan increment (V)	40 arc sec (~190 µrad); 1.9 mm @ 10 m; 4.0 mm @ 21 m
Min. scan increment (H)	.20 arc sec (~95 µrad)
Max. sample density (V)	4 mm @ 21 m
Beam diameter	2.3 mm @ 5 m; 16 mm @ 46m

SYSTEM SPECIFICATIONS

Scanner type	phase shift
Laser wavelength	.690 nm (red)
Laser type	continuous wave
Laser power	15mW
Laser class (IEC EN60825-1)	3R
Field of view	360° x 270°
Status indicators	system on

PHYSICAL

Dimensions	470 mm L x 176 mm W x 250 mm H (18.5 in L x 6.9 in W x 9.8 in H)
Weight	11 kg (24 lb)
Power Supply	DC 19–24V, 3.5A AC 110–220V
Power consumption	.40 W (65 W peak)
Carry on case,[3,4,5]	.559 mm D x 355 mm W x 229 mm H (22 in D x 14 in W x 9 in H) weight: 5.4 kg (12 lb)
Transportation case	726 mm D x 499 mm W x 448 mm H mm (28.2 in D x 19.7 in W x 17.6 in H in) weight: 33.5 kg (74 lb) with scanner
Environmental	.calibrated
Operating temperature	5 °C to 45 °C, non-condensing atmosphere

FIELD SOFTWARE

Trimble FX field software

- Requires notebook or desktop PC running Windows XP 32-bit

Recommended minimum specifications

Minimum personal computer hardware:

- Intel Pentium 4 or later (or compatible), 2 GHz or higher
- 2 GB RAM (4GB recommended)
- 256 MB OpenGL graphics card
- USB 2.0 port
- Microsoft Windows XP Professional with SP1 or SP2
- Microsoft .NET 2.0 runtime, available as a free download from Microsoft
- DirectX 9.0B, available as a free download from Microsoft

FUNCTIONS

- Single or double pass scanning;
- Configurable resolution;
- Configurable scanning field of view;
- Export directly to Trimble RealWorks Survey Register software

STANDARD ACCESSORIES

- Carry on case
- Transportation case
- AC Power Supply 110/220V
- Batteries
- Power on key (x2)
- USB2 cable (3 m)
- Fuse, 4 Amp

1 Range and precision depend on atmospheric conditions, size and reflectivity of targets, angles of incidence and background radiation.
2 Range specified to indicated reflectivities (99% of points)
3 The carry-on case is not suitable for airline checked baggage. Use of the carry on case for airline checked baggage will void your warranty. Place the carry on case inside the transportation case for all checked baggage and road transport requirements.
4 Contact your airline before departure to confirm check-in regulations.
5 The carry on case should only be rolled on smooth surfaces. The carry on case is provided as a convenience. It is NOT a transportation case. Always use the transportation case to provide full protection for the scanner.

Specifications subject to change without notice.

Image of a Trimble FX Scanner dataset

NORTH AMERICA
Trimble Engineering &
Construction Group
5475 Kellenburger Road
Dayton, Ohio 45424-1099 • USA
800-538-7800 (Toll Free)
+1-937-245-5154 Phone
+1-937-233-9441 Fax

EUROPE
Trimble GmbH
Am Prime Parc 11
65479 Raunheim • GERMANY
+49-6142-2100-0 Phone
+49-6142-2100-550 Fax

Trimble

www.trimble.com